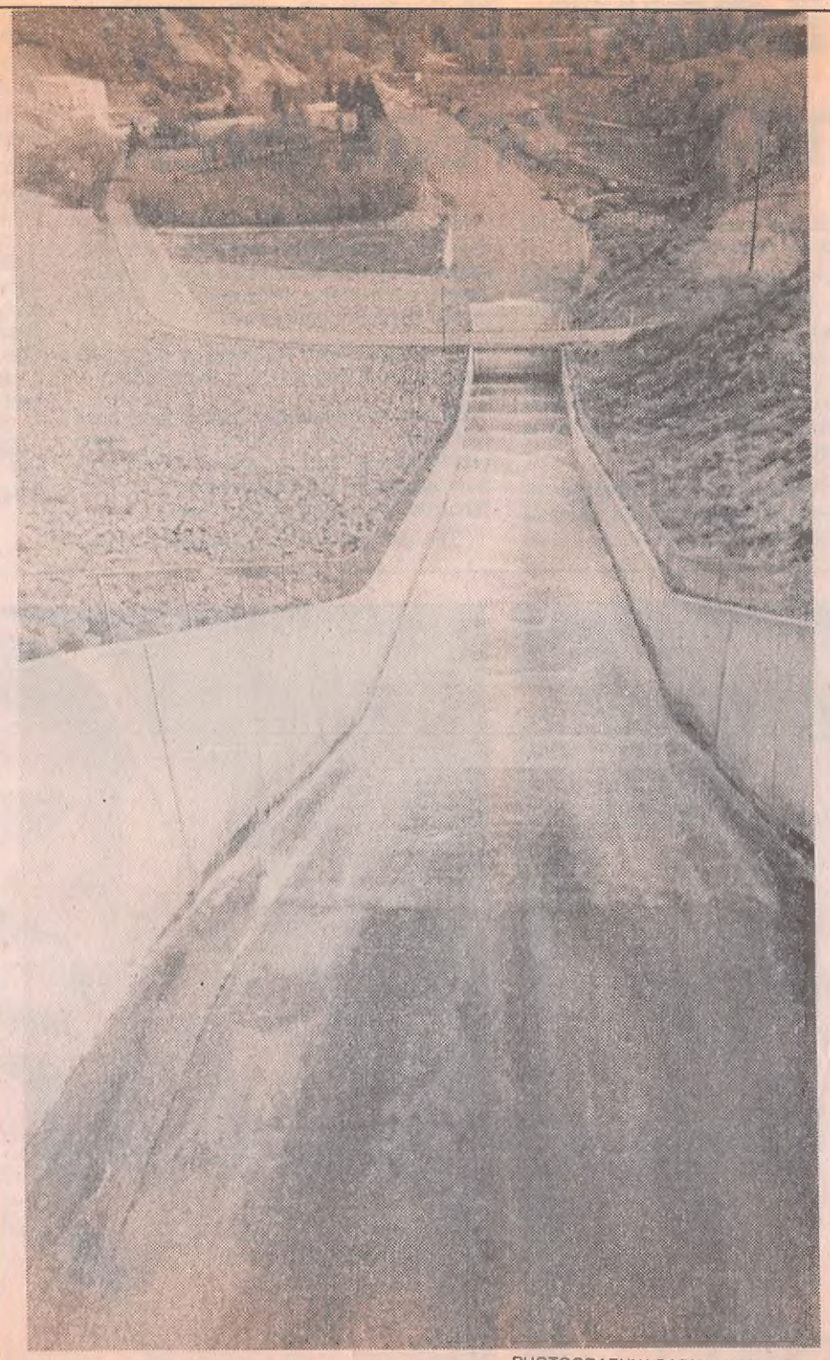

PHOTOGRAPHY/ GARY McKELLAR

Officials are expecting high runoff into the Deer Creek reservoir.

Provo leaders urge citizens to prepare for any flooding

15 May 1986

By Margaret Hammerland
Deseret News correspondent

PROVO — Flooding potential along the Provo River is greater this year than ever before, and city officials want residents to know what could happen and what preparations should be made.

"The flooding potential is becoming great," Mayor Joe Jenkins said in a press conference Wednesday. "We need to get the information out to the public."

He said there is no need for residents to panic, but it is necessary that they are aware of the situation.

Those who live in low areas near the river should make several preparations, including having 72-hour survival kits available in case flooding forces them from their homes. Also, they should have evacuation plans prepared beforehand.

Those who have to relocate may be out of their houses for up to week, Jenkins said. He said residents should try to make arrangements to stay with relatives or friends, avoiding city-run shelters.

In addition, residents living in the areas near the river are urged not to plan vacations for the next few weeks, so they can be at home in case flooding occurs.

To notify the public about any flood danger, church leaders will be used to rely information.

Each neighborhood will have a flood control leader to let residents know of any developments. Several of those leaders are already in place, Jenkins said.

Although the river is low right now, residents should not take that as a sign the danger does not exist, Jenkins said. The water level is down now, but when the runoff gets into full swing, the level will increase.

"We don't want them to become complacent and think there is no danger," he said.

William J. Alder, meteorologist in charge at the Salt Lake station of the National Weather Service, on Wednesday gave the river an 8.8 on a scale of 10 for flood potential.

"We've been watching the development along the Provo River all spring," city Public Works Director Merrill Bingham said.

At Trial Lake in the Uinta Mountains, a gauging station 22 miles east of Kamas, there is 50 inches of water content in the snow. That is the highest it ever has been. At this same time in 1983, there was 35 inches.

"Instead of the water starting to come down from there the first two weeks of May, it went up," Bingham said. "It's all got to come down now."

Bingham said operators of Deer Creek Reservoir are aware of the flooding po-

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DEER CREEK: Officials working for clean water

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may limit the amount of oxygen in the water.

When a ski slope is cleared of trees, the amount of erosion can increase as much as 1,600 times.

"It can amount to tons of soil per year," said Bruce M. Erickson, environmental-resource planner who has worked on the Deer Valley project.

How do you keep the runoff under control, and how do you keep the ski slopes from washing away through erosion?

Wasatch County and Deer Valley were in agreement concerning the need to keep the ski slopes intact, and Wasatch County wanted to keep nutrients and pollutants out of Deer Creek.

Basically, Wasatch County required the developers to build the resort in order to minimize soil loss, and to catch what they could not stop through soil erosion.

Developers agreed that they wanted no "chutes" for their ski runs. Instead, they left "islands" of wooded areas and designed the slopes to avoid a sharp line between the developed and undeveloped areas, so the ski slopes are more like natural meadows in the midst of forest growth.

Engineers described the runs as "meandering runs with pockets of trees."

Erickson and Mathew Lindon, profession engineer, explained that their goal was to control the runoff in three ways: the speed of runoff, the amount of water, and the total distance it traveled.

To slow the speed, they designed "water bars" on the slopes. These were shallow trenches which slow the water and divert it into the vegetation. These water bars prevent creation of erosion gullies, and, according to Erickson, are the most effective first line of defense.

The water bars are designed to withstand 100-year storms.

The number of water bars constructed on a slope is determined by its steepness.

Amount of runoff is also reduced by vegetation on the slopes.

With cooperation from the U.S. Soil Conservation Service, the developers were able to obtain mixtures of grasses and wildflowers to seed the slopes.

Each spring the areas where the ground cover have not yet been established is reseeded and the areas fertilized. The seeded areas are then covered with straw, jute matting, or shredded aspen to hold the seeds and young plants in place.

Even with these control measures in place, the rate of erosion can still be as high as four to five times the natural rate.

The distance water must travel has been reduced by the construction of two retention ponds, or catch basins.

These small ponds hold the runoff water, and are equipped with standpipes and openings so the water can be released at a controlled rate.

The catch basins are designed to take care of snowmelt runoff, cloudburst storms and normal rainstorms.

The catch basins had a real test earlier this year when nine inches of rain fell in three days. Bob Wheaton, director of Deer Valley ski operations, said, "We had waterfalls on the ski runs."

Deer Valley reports the amount of sedimentation accumulating in the catch basins each year. When the ponds are cleaned out, the sediment is placed in a compacted fill area.

Mark Olivar, hydrologist, takes weekly samplings of what goes in and out of the catchbasins during the runoff period, and use the data to determine what modifications must be made in the program.

Olivar says that hill stabilization and erosion methods taken so far have been so successful that the runoff is no longer rich in nutrients.

Hydrologists hired by Deer Valley monitor the effectiveness of the erosion control methods and supply Wasatch County with reports on a yearly basis. The county then evaluates the reports to see if alternatives are necessary.

County officials emphasized that the ski resort pays the expenses as part of the privilege of development.

Pete Coleman, Wasatch County Commissioner, said the maintenance agreement was a practical solution to a serious problem.

He praised Royal Street Development Company, owners of Deer Valley, for understanding the problem and responding with the expertise to solve it.

Plant Helps Clean Up Deer Creek Waters

By SONNI SCHWINN
Wasatch County Correspondent

HEBER CITY — Successful operation of the Heber Valley Special Service District Wastewater Treatment facilities during the past four years has significantly improved Deer Creek Reservoir water quality by ending raw sewage contamination from Wasatch County.

The Environmental Protection Agency, Mountainlands Association of Governments and Wasatch County officials are working with citizens to resolve pollution problems caused by municipal wastewater, dairy and feedlots, storm water runoff, industry, fish hatchery, erosion and irrigation.

Heber hosted the annual EPA Construction Grants meeting recently which included EPA officials from Washington D.C. and Denver, and representatives from the six midwestern states which constitute Region 8. Focus of the meeting was on the Heber facility which they toured and discussed. It is "the Cadillac" of such plants and used as a successful example by other communities as they design their own systems, according to Clyde Montgomery, Plant Superintendent.

Roger Bishop, a Utah Division of Health official, told him the Heber unit has been nominated for the EPA's Award of Excellence for Region 8, because of its high quality operation and maintenance. Heber City Mayor Gordon Mendenhall, secretary of the Heber District told the gorup, "We are very proud of our wastewater facilities. In fact, the area is so clean, beautiful, and free of odor that it would make nice picnic grounds."

The Heber Valley Treatment plant and proposed Jordanelle Dam are the least cost-effective projects in the endeavor to provide clean culinary water, but the most necessary, officials say. Education of the public to get cooperation in shore cleanup is the most cost-effective.

One important project, which has significantly improved water quality, has been to work with local farmers to get animal waste out of ditches and canals which feed into Deer Creek, by running the water through pipes rather than open to contamination. The Central Utah Project is paying 75 percent of the cost in these cases because the farmers don't share in downstream benefits.

Let it snow, let it snow, let it snow!

Snow was falling early Friday in the high country and at some lower elevations of northern Utah, much to the delight of ski enthusiasts and other Utahns.

Alta ski resort picked up about 6 inches of snow Thursday night and early Friday, and it was still snowing there at 6 a.m., the Salt Lake office of the National Weather Service reported.

JoAnn Panter, administrative assistant at Powder Mountain Ski Resort at Eden, Weber County, said about two inches of snow had fallen there as of 7:15 a.m. She estimated a total of 4 to 6 inches at the 8,900-foot level of the Hidden Lake lift at the resort.

As of 6:40 a.m., .29 of an inch of precipitation had fallen at the airport and it was still raining.

PHOTOGRAPHY/ RAVELL CALL

Though cities are saving reservoir water in case there isn't enough winter snow, Echo and others remain low.

Average winter won't do

150% precipitation might balance scale

By Steve Fidel
Deseret News staff writer 11-11-86

The most recent drought statistics show northern Utah is in worse than bad shape and even an "average" winter won't bring things back to normal.

Conditions in the mountain drainage areas from the Wasatch Front north have reached -4.2 on a drought scale that peaks, for all practical purposes, at -4, said Gaylon L. Ashcroft, associate state climatologist.

The Palmer Index lists .5 to -.5 as normal, with -3 to -3.9 indicating a severe drought, and extreme drought conditions rated at -4 and beyond.

Ashcroft said he used model precipitation conditions to make a Palmer Index forecast for the first time. The results indicate a normal winter would bring the drought index back to the neutral range, but not until April. "Even if we pull out of the drought by March we would still be past the time when the reservoirs would be filling," he said.

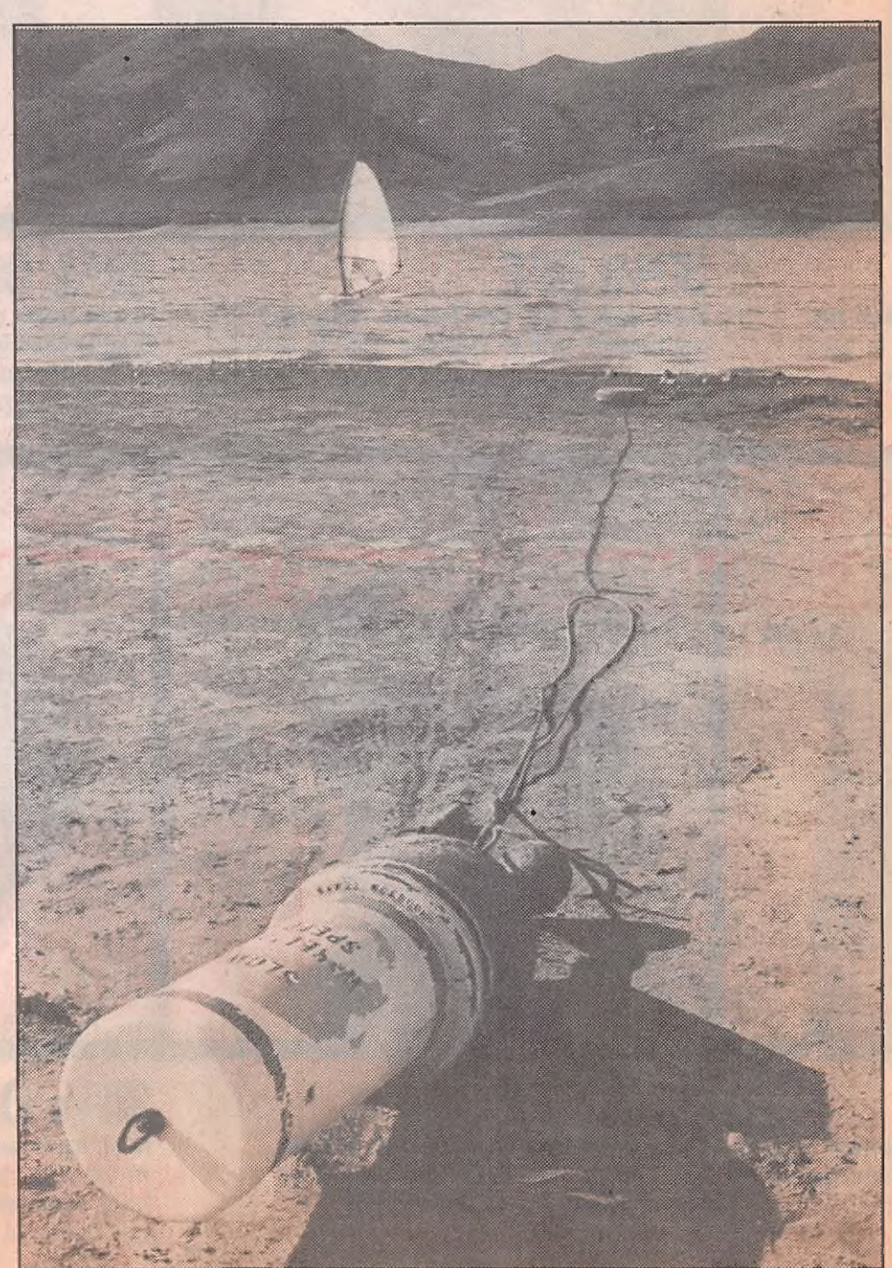
If winter precipitation is 70 percent of normal the drought index would worsen to between -5 or -5.4 by March.

Historical patterns show the dry weather pattern shouldn't continue through this winter, but water officials and businesses that rely on the winter snowpack are working now to cheat the drought, should it continue.

The Utah Board of Water Resources has allocated $75,000 for cloud-seeding programs in both northern and southern Utah. Board Director Larry Anderson said he will ask the Legislature for $200,000 next year for cloud seeding.

The Alta and Snowbird ski resorts have given Salt Lake City a total of $8,000 to help pay for the city's cloud-seeding program. Skiing-related businesses like hotels may also contribute to help ensure there is

Please see DROUGHT on B6



A beached buoy at Deer Creek shows how low the reservoir's supply is.

DROUGHT

Continued from B1

snow on the mountains this winter to attract out-of-state skiers, said Marie Nelson of the Wasatch Action Committee.

About 6,000 feet of water pipe has been installed amid 45 acres of ski runs at Brighton where $150,000 worth of snow-making machines are being installed so the ski resort, like several other area resorts with snow machines, can make sure it will have snow even if conditions are so dry there aren't any clouds to seed.

Cloudy skies and rainfall since the first week of November broke a five-month dry spell and has given officials some hope — but nothing they can bank on yet. "One day we're in a drought and the next day we have a rain storm and snow and everybody thinks the drought is over with, but we just don't know," said Anderson.

Municipalities are pumping more wells than usual and hoarding reservoir storage in case there isn't enough snow this winter to fill the reservoirs next spring. Pineview Reservoir was the only northern Utah reservoir that did not fill in 1987, but many lakes are as low as they were during the 1977 drought, Anderson said.

The water supply throughout the Weber Basin is "almost identical to what they had in 1977," he said.

Deer Creek is so low that Salt Lake City has been promised only a half allocation for next year and has announced it has no surplus Deer Creek water to sell to the Salt Lake County Water Conservancy District. Despite the potential for shortage, Salt Lake City is still releasing water from Deer Creek to help meet federally required flows in the Provo River for the brown trout fishery.

Some of the water being released to preserve the fishery would likely have been sold next summer to the Salt Lake County Water Conservancy District for distribution to its 19 customer agencies throughout the Salt Lake Valley.

"We do not see any surpluses until we are able to measure the amount we're going to get in terms of (spring) runoff," said LeRoy W. Hooton Jr., Salt Lake City's public works director. "That way they (the county) are not counting on any water this winter that isn't there."

Outdoor water use was restricted in some northern Utah communities during the summer. Many irrigators received only partial allotments and had to stop irrigating early in the season. Box Elder County was declared a federal disaster area because of drought.

While the National Weather Service puts the odds at 8-1 in favor of a normal winter, the odds haven't played in Utah's favor much this decade, Anderson said, agreeing with Ashcroft's prediction that the northern part of the state may need better-than-normal precipitation this winter to recover from the drought.

"The weather people tell us we've never had three dry years in a row. But we had never had three wet years in a row until this decade," Anderson said, referring to the 100-year storm and resulting floods in 1983.

Hooton said a worst-case scenario indicates Salt Lake City would have 90,000 acre-feet next spring from streams and Deer Creek storage. "Last year we supplied 105,000 acre-feet, so there's still a deficit. We could still maintain reasonable service," he said, "But we would be developing programs on the demand side in terms of managing demand through conservation or restrictions."

Municipalities put higher demands on wells when streams and other surface supplies start to dwindle. But without adequate recharge from streams and rainfall, the groundwater level begins to drop. Entire neighborhoods in Salt Lake County saw their wells dry up during the summer when the water level began to drop.

"Most people are saying we need 150 percent of average" winter precipitation to start the groundwater recharge and fill storage reservoirs, Hooton said. "Right now we're just speculating. We really won't have an answer until March or April."

Dry conditions this summer dealt a double whammy to irrigators, said Utah Agriculture Commissioner Cap Ferry. Farmers depend on occasional rainfall to supplement irrigation. This summer, many irrigators had to rely entirely on irrigation during a season when they had less than a full allocation of water.

The only advantage to the dry summer, if there was one, was that farmers didn't have to worry about hail damage, Ferry said.